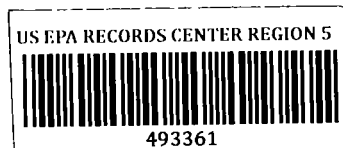




Lois Kimbol
Direct Tel: 215.994.2537
Lois.Kimbol@dechert.com



July 20, 2001

VIA FEDERAL EXPRESS

Mr. Dion Novak
Remedial Response Branch I, Section II
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, IL 60604

Re: Eagle Zinc Site, Hillsboro, IL

Dear Dion:

I am writing on behalf of my client, T.L. Diamond & Company Inc. ("T.L. Diamond"), to respond to requests made at or after your site visit. I apologize for the delay in providing these materials to you. You asked for several things. First, you asked for a site history, which is enclosed. As noted in that document, T.L. Diamond has already significantly reduced the quantity and improved the quality of materials at the site by recycling approximately 30,000 tons of pile materials. This involves all materials that it generated at the site plus substantial quantities of materials generated and left by previous owners and operators. I also note that this reuse fits the presumptive remedy for metal contaminated materials of recycling and reuse. Second, you asked us to send you the compiled sampling results that we had presented to the state. I enclose a set of those sampling results and associated drawings so that you can identify the areas in which the samples were taken. Third, you asked for copies of the large, ancient aerial photos that are in the company offices in Hillsboro. We are certainly willing for EPA to review those photos or to obtain copies, but we are concerned about the integrity of the photographs if we try to remove them to some other location for copying. We would appreciate your suggestions about how to cost effectively and safely obtain copies.

You also suggested that prior to the meeting in Chicago on July 31st, we provide you with a proposal for how we would like to approach the site. While we appreciate this opportunity and are happy to continue conceptual discussions, I think we need a meeting that includes all three PRPs and USEPA before we try to put a formal proposal together. The nature of the proposal would differ greatly depending on who is participating. In order to understand what would be feasible to propose to EPA, we need to better understand the position of the other PRPs. I have scheduled a conference call with the other PRPs for next week but do not foresee that we will have a proposal by the meeting on the 31st of July.

In addition, we think it is crucial that, before preparing a proposal, we have agreement with USEPA on the type of proposal that would be acceptable. As I think you know, T.L. Diamond has done two proposals for the site already. The first was a proposal under the state cleanup program and the second was a proposal for an EE/CA investigation. After each had been submitted to IEPA, the state decided, based upon its concern that federal funds would not be forthcoming for the site unless the next level of effort was required

Law Offices of Dechert Price & Rhoads

4000 Bell Atlantic Tower • 1717 Arch Street • Philadelphia, PA 19103-2793 • Tel: 215.994.4000 • Fax: 215.994.2222 • www.dechert.com

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Mr. Dion Novak
July 20, 2001
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(TACO to EE/CA, EE/CA to RI/FS), and each of the requested proposals was rejected. We would like to avoid repeating that experience.

Finally, if it appears to us that T.L. Diamond should respond independently, we will then want to meet with you and Tom Krueger to talk about specific ideas that would allow T.L. Diamond to resolve its liability for the site in a manner that is within its financial means. For example, we had previously proposed to the state that we would conduct an RI/FS for an operable unit constituting the stream running south of the property. There are undoubtedly other possibilities as well.

If you would like to talk about any of this before July 31st, please call. Otherwise, I look forward to seeing you then.

Sincerely,

Lois Kimbol

LK/drv

Enclosure

cc: Thomas Krueger, Esquire
Jeffrey Fort, Esquire

Site Operational History

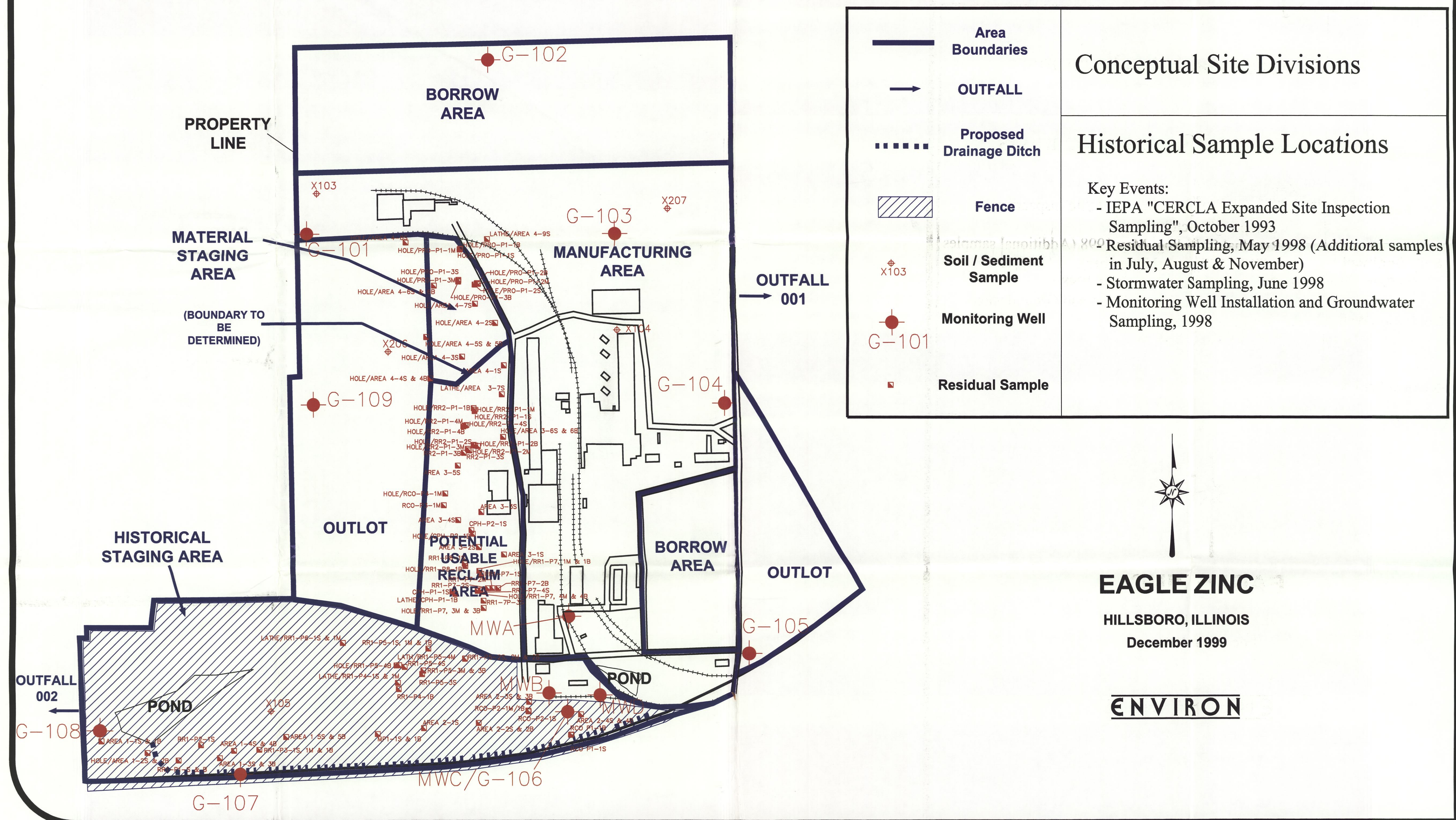
According to various reports available to Eagle Zinc, industrial operations were first conducted at the property in approximately 1912 by the Lanyan Zinc Company. Lanyan Zinc Company apparently operated a zinc smelter and sulphuric acid plant at the site.

Eagle-Picher purchased the operations at the site from Lanyan Zinc Company in 1919 and owned and operated the site until its sale to The Sherwin-Williams Company in 1980. Eagle-Picher apparently continued to operate the sulphuric acid plant and zinc smelter until the mid 1930's. At that time, Eagle-Picher began producing zinc oxide and leaded zinc oxide at the facility. According to the CERCLA Expanded Site Inspection Report, lead oxide was recovered from lead ore and used to produce lead-based paints. The manufacture of leaded zinc oxide was apparently phased out over time and no leaded zinc oxide was being manufactured at the time of the sale to Sherwin-Williams. It is Eagle Zinc's understanding that much of the residuals present on the property are related to Eagle-Picher's operations.

Sherwin-Williams owned and operated the site from 1980 until 1984. Sherwin-Williams apparently continued the manufacture of zinc oxide using the same processes employed by Eagle-Picher. It appears that it was during Sherwin-Williams period of ownership that the Illinois Environmental Protection Agency ("IEPA") first became concerned with stormwater runoff from the site and requested that Sherwin-Williams take action to address those concerns. Sherwin-Williams identified an area of approximately 25 acres that contained residues and other raw materials that could impact stormwater and proposed to address them. It appears that Sherwin-Williams shipped some materials, primarily muffle dross (approximately 17,500 tons), that had been stockpiled in area of about 10 acres located on the north side of the facility for off-site reuse. It does not appear that Sherwin-Williams removed any of the materials present on the south side of the property.

Eagle Zinc purchased the property from Sherwin-Williams and 1984 and continued manufacturing zinc oxide at the site. Eagle Zinc has implemented a program to reuse residual materials generated on site. This program generally involves separating carbon fines from oversize residual materials. The carbon fines are either sold for off-site use or reused in on-site manufacturing operations. The oversize is an inert, non-hazardous aggregate material suitable for use as road bed and is awaiting state approval to be sold to a local landfill for use on its site. Eagle Zinc currently has the capacity to process all residuals generated by on-going manufacturing operations, has processed all residuals historically generated by Eagle Zinc, and has begun processing residuals generated by the historical site operators. To date, approximately 30,000 tons of material have been processed in this fashion. Eagle Zinc also applied for and received a stormwater discharge permit for the site, developed a stormwater pollution prevention plan, and is in the process of implementing that plan. Significantly, that plan involves the construction of a sedimentation basin to control runoff from north side of the property. The construction of that basin is well underway.

Figure 7



IEPA Residuals Measurements: Total and Toxicity Characteristic Leaching Procedure (TCLP)

1/2

Only detect values are presented. Samples were collected during May 1998.

Date
Sample

5/19/98	5/19/98	5/19/98	5/19/98	5/19/98	5/19/98	5/20/98	5/20/98	5/20/98
X201	X202	X203	X204	X205	X206	X207	X208	X209

Parameter	Units
Aluminum (S)	mg/kg
Antimony (S)	mg/kg
Antimony (TS)	mg/l
Arsenic (S)	mg/kg
Arsenic (TS)	mg/l
Barium (S)	mg/kg
Barium (TS)	mg/l
Beryllium (S)	mg/kg
Beryllium (TS)	mg/l
Boron (S)	mg/kg
Cadmium (S)	mg/kg
Cadmium (TS)	mg/l
Calcium (S)	mg/kg
Chromium (S)	mg/kg
Chromium (TS)	mg/l
Cobalt (S)	mg/kg
Copper (S)	mg/kg
Iron (S)	mg/kg
Lead (S)	mg/kg
Lead (TS)	mg/l
Magnesium (S)	mg/kg
Manganese (S)	mg/kg
Nickel (S)	mg/kg
Nickel (TS)	mg/l
pH (TE)	
Potassium (S)	mg/kg
Selenium (S)	mg/kg
Selenium (TS)	mg/l
Silver (S)	mg/kg
Silver (TS)	mg/l
Sodium (S)	mg/kg
Strontium (S)	mg/kg
Thallium (S)	mg/kg
Thallium (TS)	mg/l
Vanadium (S)	mg/kg
Vanadium (TS)	mg/l
Zinc (S)	mg/kg
Zinc (TS)	mg/l

10000	9600	3700	3000	2500	3800	7900	3600	8200
	1.7	2.6	3	2	2.2	5.5	11	
		0.006	0.015	0.009		0.006	0.007	0.007
27	29	26	26	18	21	19	25	26
		0.026	0.036	0.031	0.028	0.028	0.026	0.033
170	150	310	290	440	400	190	150	360
1	0.032	1.4	1.7	0.83	0.33	1.5	1	1.1
0.8	1.5	0.5	0.5	0.4	0.5	0.8		1.1
65	44	22	29	34	41	36	33	120
35	44	21	29	30	27		3.3	120
0.17	0.14	0.18	0.24	0.16	0.19	0.044	0.052	0.99
1200	16000	1100	580	1500	1800	13000	12000	6600
21	21	9.4	15	6.7	8.1	8.4	6.3	48
12	6	12	9.3	3	42	50	20	190
520	530	560	460	450	390	600	350	740
48000	67000	36000	37000	26000	28000	11000	12000	138000
2700	3000	6300	4000	4500	2500	49	36	3100
3.7	2	29.6	21.3	32.4	3.8	0.012	0.007	16.7
1300	2500	550	280	380	720	1000	930	1700
410	49	98	71	62	1100	300	350	360
21	20	23	18	17	29	280	54	220
0.016	0.019	0.036	0.036	0.035	0.079	0.12	0.054	0.4
5.1	5	5.4	5.4	5.4	5.2	6.8	6.8	5.9
920	320	140				990		1500
		2.4	2	2.3				
0.01								
1.6								17
300	80	60	58	50	63	2200	620	1000
17	33	11	4.9	18	16	130	89	71
0.01								
32	25	12	16	8.4	10	16	15	67
37000	19000	28000	37000	34000	49000	133000	180000	40000
70.4	67	300	410	360	260	380	410	440

Analysis Methodology
(TS) TCLP Solid
(TE) Final value after TCLP
(S) SW846 DWT

IEPA Residuals Measurements: Total and Toxicity Characteristic Leaching Procedure (TCLP)

2/2

Only detect values are presented. Samples were collected during May 1998.

Date		5/21/98	5/21/98	5/21/98	5/22/98	5/22/98	5/22/98	5/22/98	5/22/98
Sample		X210	X211	X212	X213	X214	X215	X216	X217
Parameter	Units								
Aluminum (S)	mg/kg	7100	8600	5300	24000	4600	24000	21000	77000
Antimony (S)	mg/kg	8	8.1	4.5	330	25	210	240	240
Antimony (TS)	mg/l		0.006	0.01	0.033	0.023	0.01	0.017	0.017
Arsenic (S)	mg/kg	28	24	17	31	18	65	57	83
Arsenic (TS)	mg/l	0.026	0.022	0.031	0.028	0.042	0.035	0.035	0.043
Barium (S)	mg/kg	220	220	98	160	110	110	190	270
Barium (TS)	mg/l	0.46	0.59	0.38	0.67	0.52	0.9	1.1	0.51
Beryllium (S)	mg/kg	1.2	1.1	0.5		0.4	0.6	0.9	0.5
Beryllium (TS)	mg/l								
Boron (S)	mg/kg	57	52	55	36	27		41	26
Cadmium (S)	mg/kg	3.8	6.3		3	11	5.5	50	88
Cadmium (TS)	mg/l	0.021	0.015	0.015	0.02	0.11	0.042	0.036	0.001
Calcium (S)	mg/kg	23000	17000	10000	5000	2900	9000	9700	2600
Chromium (S)	mg/kg	5.6	14	2.7	180	21	390	250	550
Chromium (TS)	mg/l								
Cobalt (S)	mg/kg	690	520	230	76	20	93	79	47
Copper (S)	mg/kg	5400	3300	670	15000	2400	20000	371000	24000
Iron (S)	mg/kg	86000	65000	67000	67000	22000	53000	108000	37000
Lead (S)	mg/kg	46	77	18	360	160	3300	4600	9800
Lead (TS)	mg/l	0.011			2.6	0.12	6.7	8.5	6.7
Magnesium (S)	mg/kg	8600	5300	2000	930	1100	4100	3300	3300
Manganese (S)	mg/kg	710	550	320	470	94	760	1000	1400
Nickel (S)	mg/kg	910	590	130	12000	430	6400	18000	5500
Nickel (TS)	mg/l	0.93	0.75	0.53	12.7	0.41	7.5	15.3	1.4
pH (TE)		6.7	6.7	6.8	5.2	5.6	6.4	6.2	6.4
Potassium (S)	mg/kg	2300	2200	850		440			
Selenium (S)	mg/kg					1.6			
Selenium (TS)	mg/l								
Silver (S)	mg/kg	97	54	3.3	20	6.2	30	41	25
Silver (TS)	mg/l								
Sodium (S)	mg/kg	1500	1400		270	440	290	700	
Strontium (S)	mg/kg	77	74	54	38	32	25	38	49
Thallium (S)	mg/kg								
Thallium (TS)	mg/l								
Vanadium (S)	mg/kg	12	12	9.2	9.3	10	12	15	32
Vanadium (TS)	mg/l								
Zinc (S)	mg/kg	172000	126000	151000	40000	89000	220000	132000	317000
Zinc (TS)	mg/l	300	330	490	360	760	460	400	580

Analysis Methodology	
(TS)	TCLP Solid
(TE)	Final value after TCLP
(S)	SW846 D/WT

Summary of Analytical Results for Rotary Residue Type 1 Stockpile Samples
Only detect values are presented. Samples were collected during May of 1998.

Parameter	Lead (T) mg/kg		Cadmium (T) mg/kg		Lead (TCLP) mg/L		Cadmium (TCLP) mg/L		IEPA ID
	GBI	IEPA	GBI	IEPA	GBI	IEPA	GBI	IEPA	
RR1-P1-1S	9970		19.6		123		0.204		
RR1-P1-1B	2241	3000	15	44	1.12	2		0.14	X202
RR1-P2-1S	61.8		11.8						
RR1-P2-1B	986		11.9		7.11		0.123		
RR1-P3-1S	4339	4000	30.7	29	24.7	21.3	0.27	0.24	X204
RR1-P3-1M	15000		14.5		120				
RR1-P3-1B	5292		35.4		82.6				
RR1-P4-1S	40		6.8						
RR1-P4-1M	423		8.1		0.12				
RR1-P4-1B	55		6.54						
RR1-P4-1B2	2644	3100	66.7	120	14.8	16.7	0.8	0.99	X209
RR1-P5-1S	23.2		5						
RR1-P5-1M	15		1.5						
RR1-P5-1B	4.3		1.4						
RR1-P5-2S	20.8		1.8						
RR1-P5-2M	31.7		5						
RR1-P5-2B	5.8		2.7						
RR1-P5-2D	8.2		1.2						
RR1-P5-3S	124		7.5						
RR1-P5-3M	65.4		3.89		0.2		0.01		
RR1-P5-3B	153		8.5						
RR1-P5-4S	0.9		0.1						
RR1-P5-4M	2.9		11.1						
RR1-P5-4B	5		12.3						
RR1-P6-1S	5012		19.3						
RR1-P6-1M	2338		19.7		8.61		0.273		
RR1-P6-1B	3059		25						
RR1-P7-1S	16.5		1.2						
RR1-P7-1M	40.7		5.7						
RR1-P7-1B	49.3		3.6						
RR1-P7-2S	24		4						
RR1-P7-2M	6.7		1.8		0.203		0.055		
RR1-P7-2B	11.6		5.6						
RR1-P7-3S	25		3.9						
RR1-P7-3M	31.4		1.8						
RR1-P7-3D	25.9		0.5						
RR1-P7-3B	20		5						
RR1-P7-4S	85		7.1						
RR1-P7-4M	26.9		3.8						
RR1-P7-4B	41.4	46	6.8	3.8	0.255	0.011	0.019	0.021	X210
RR1-P8-1S	8.8		8						
RR1-P8-1B	45		6.1				0.028		
Regulatory Limit					5		1		

(T) Total
(TCLP) Toxicity Characteristic Leaching Procedure
Shading indicates a value above the regulatory limit.

Summary of Analytical Results for Designated Sampling Areas (1-4)
Only detect values are presented. Samples were collected during May of 1998.

Parameter Sample ID	Lead (T) mg/kg		Cadmium (T) mg/kg		Lead (TCLP) mg/L		Cadmium (TCLP) mg/L		IEPA ID
	GBI	IEPA	GBI	IEPA	GBI	IEPA	GBI	IEPA	
Area 1 - 1S	4342	2700	16.3	35	8	3.7	0.193	0.17	X201
Area 1 - 1B	511		9.5						
Area 1 - 108-8	2330				3.37				
Area 1 - 2S	4330		16.8		14.4				
Area 1 - 2B	15.3		6.6						
Area 1 - 3S	4772		30.5		23.4				
Area 1 - 3B	3151	6300	20.8	21	31	29.6	0.164	0.18	X203
Area 1 - 4S	4423		21.5		36.3				
Area 1 - 4B	1385	4500	15.7	30	32	32.4	0.202	0.16	X205
Area 1 - 5S	1305		7.7		4.3				
Area 1 - 5B	1745	2500	14.5	27	5.1	3.8	0.219	0.19	X206
Area 2 - 1S	1900		31.2		5.98				
Area 2 - 2S	2583		11.7		2.5		0.149		
Area 2 - 2D	2318		45.4		2.96				
Area 2 - 2B	552		84.1						
Area 2 - 3S	378		9.6						
Area 2 - 3B	9.2		2.5						
Area 2 - 4S	328		6.5						
Area 2 - 4B	158		9.2						
Area 3 - 1S	650		22.1		0.04				
Area 3 - 2S	13.8		8.8						
Area 3 - 3S	438		15.9						
Area 3 - 4S	4.6		3.3						
Area 3 - 4B	48.6		7.7						
Area 3 - 5S	7.1	18	8.8		0.3		0.064	0.015	X212
Area 3 - 6S	887		485		0.56				
Area 3 - 7S	1260		27.5		0.54				
Area 3 - 7B	47.1		69.6						
Area 4 - 1S	5075		83.4		13.6				
Area 4 - 2S	267		22.7						
Area 4 - 3S	1.2		8.8						
Area 4 - 3B	20.6		5		0.1		0.074		
Area 4 - 4S	0.4		4.3						
Area 4 - 4B	30.3		15.9						
Area 4 - 5S	8.6		3.2						
Area 4 - 5B	17.1		17.9						
Area 4 - 6S	8137	9800	53	88	4.73	6.7	0.679	0.001	X217
Area 4 - 6D	6273		45		5.25		0.487		
Area 4 - 6B	30		24.6						
Area 4 - 7S	160		15						
Area 4 - 8S	35.4		24.6		0.305		0.244		
Area 4 - 9S	789		17.9		1.48				
Area 4 - 9D	177		9.1						
Area 4 - 9M	148		6.3						
Regulatory Limit					5	5	1	1	

(T) Total
(TCLP) Toxicity Characteristic Leaching Procedure
Shading indicates a value above the regulatory limit.

Summary of Analytical Results for Rotary Residue Type 2 Stockpile Samples
Only detect values are presented. Samples were collected during May of 1998.

Parameter	Lead (T) mg/kg		Cadmium (T) mg/kg		Lead (TCLP) mg/L		Cadmium (TCLP) mg/L		IEPA ID
Sample ID	GBI	IEPA	GBI	IEPA	GBI	IEPA	GBI	IEPA	
RR2-P1-1S	2722		7.3		4.18		0.114		
RR2-P1-1M	2372		9.2		5.3		0.069		
RR2-P1-1B	3385	4600	5	50	7.11	8.5	0.039	0.038	X216
RR2-P1-2S	13797		5.8		16.9		0.057		
RR2-P1-2M	456	860	1.5	3	2.74	2.6	0.016	0.02	X213
RR2-P1-2B	3186		3.6		1.94		0.031		
RR2-P1-3S	1589		3.6		5.63		0.016		
RR2-P1-3M	4362		7.7		10.6		0.094		
RR2-P1-3B	690	160	4.2	11	1.21	0.12	0.062	0.11	X214
RR2-P1-3D	274		10.4		0.29		0.132		
RR2-P1-4S	3147		9.1		3.84		0.133		
RR2-P1-4M	2781	3300	2	5.5	5.71	6.7	0.046	0.042	X215
RR2-P1-4B	14298		46.5		2.33		0.514		
Regulatory Limit					5	5	1	1	

(T) Total
(TCLP) Toxicity Characteristic Leaching Procedure
Shading indicates a value above the regulatory limit.

Summary of Analytical Results for Rotary Clean-Out, Carbon Plant Hutch and Miscellaneous Materials Stockpile Samples
Only detect values are presented. Samples were collected during May of 1998.

Parameter	Lead (T) mg/kg		Cadmium (T) mg/kg		Lead (TCLP) mg/L		Cadmium (TCLP) mg/L		IEPA ID
Sample ID	GBI	IEPA	GBI	IEPA	GBI	IEPA	GBI	IEPA	
MP1-1S	48695		15.8		255				
MP1-1B	50290		24.2		288		0.22		
RCO-P1-1S	1.43	49	0.61		0.41	0.012	0.027	0.044	X207
RCO-P1-1B	12.5		0.4						
RCO-P2-1S	120		5.8						
RCO-P2-1M	22.9	36	1.94	3.3	0.22	0.007	0.038	0.052	X208
RCO-P2-1B	54.6		6.5						
RCO-P3-1M	2.8		1.1						
RCO-P4-1M	47.9		10.8						
CPH-P1-1S	637		15		1.51		0.071		
CPH-P1-1B	198		13.7						
CPH-P2-1S	65		14.2						
CPH-P2-1B	35.4	77	10	6.3				0.015	X211
Regulatory Limit					5	5	1	1	

(T) Total
(TCLP) Toxicity Characteristic Leaching Procedure
Shading indicates a value above the regulatory limit.

Summary of Analytical Results for Rotary Residue Oversize Stockpile Samples
Only detect values are presented. Samples were collected during May of 1998.

Parameter	Lead (T) mg/kg		Cadmium (T) mg/kg		Lead (TCLP) mg/L		Cadmium (TCLP) mg/L		IEPA ID
	GBI	IEPA	GBI	IEPA	GBI	IEPA	GBI	IEPA	
Sample ID									
RRO-P1-1S	36.8		5						
RRO-P1-1M	44.3		4.3						
RRO-P1-1B	37.2		5.6						
RRO-P1-2S	84.8		3.5						
RRO-P1-2M	272		3.6		0.166				
RRO-P1-2B	1292		8.4		0.081		0.085		
RRO-P1-3S	80		16.7						
RRO-P1-3M	842		6.7						
RRO-P1-3B	1696	670	6.1	6.1	0.158	0.084	0.028	0.035	X218
Regulatory Limit					5	5	1	1	

(T)	Total
(TCLP)	Toxicity Characteristic Leaching Procedure
	Shading indicates a value above the regulatory limit.

Sediment Sampling Summary, October 26-27, 1993: Organic and Inorganic

1/2

Parameter	Date	Bckgd Sed.	Dup. X201	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample		X201	X202	X203	X204	X205	X206	X207	X208

Volatiles (ug/kg)									
Methylene Chloride							160	J	
Acetone	11	J	22	12	J	37	J	78	J
2-Butanone (MEK)			4	6	J	20	J	48	J
1,1,1-Trichloroethane					27	J	9	J	290
Toluene							36	J	8

Semi-volatiles (ug/kg)									
2-Methylnaphthalene						100	J		
Phenanthrene			280	J	1900				
Anthracene					320	J			
Carbazole					290	J			
Fluoranthene			520	J	1700			130	J
Pyrene			520	J	1600			140	J
Benzo(a)anthracene			230	J	850			100	J
Chrysene			310	J	670	J		120	J
bis(2-ethylhexyl)phthalate			660						
Benzo(b)fluoranthene			480	J				140	J
Benzo(k)fluoranthene					1200				
Benzo(a)pyrene			230	J	810				

Pesticides (ug/kg)									
alpha-BHC							1.5	J	
beta-BHC							1	J	
gamma-BHC (Lindane)							1.1	J	
Aldrin			4.4						
Heptachlor epoxide		0.2	J		1.3	J	4.7	J	
Dieldrin	2.3	J	2.6	J	16		10	J	1.3
4,4'-DDE		0.4	J				0.7	J	
Endrin	0.3	J	0.9	J	18		12	J	2.8
Endosulfan II									3.6
4,4'-DDD	0.4	J	0.9	J	7.5	6	J	1.8	J
4,4'-DDT	3.7	J	0.4	J	11	15		4.8	J
Methoxychlor (Mariate)							13	J	
Endrin Ketone		0.5	J			1.6	J		
alpha-Chlorodane	2	J	3.1		16	7		1.7	J
gamma-Chlorodane	2	J	2.5		15	7.4		3	J
Toxaphene			110	J					320
Aroclor-1254				250	120				24
Aroclor-1260	17	J	9.3	J	110	100			

B	Analyte was found in the associated blank as well as in the sample.
J	Estimated value.

Data are from CERCLA Expanded Site Inspection Report and field activity for this data was conducted on October 26 and 27, 1993.

Sediment Sampling Summary, October 26-27, 1993: Organic and Inorganic

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Parameter	Date	Bckgd. Sed.	Dup. X201	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample		X201	X202	X203	X204	X205	X206	X207	X208
Inorganics (mg/kg)									
Aluminum		6630	6390	7370	14900	8360	16300	10700	9810
Antimony	J	9	10.4	10.3	17.4	9.3	62.7	10.7	10.8
Arsenic		4.5	4.3	6.4	10.9	2.9	19.4	6	8
Barium		79.5	70.4	99.9	97.4	89.6	383	167	92.5
Beryllium	B	0.4	0.4	0.5	0.6	0.5	1.5	0.7	0.6
Cadmium	B	0.7		8.6	7.4	1.8	523	11.1	19.6
Calcium		6360	5520	20300	12000	4660	6260	1510	3020
Chromium		9.9	9.9	12.1	13.2	11	28.6	14.6	13.7
Cobalt	B	6.1	4.9	6	8.1	4.5	353	10.8	4.7
Copper		11.9	11.2	37.9	41.9	9	1420	20.8	52.2
Iron		10100	9120	12400	14300	10900	82400	14900	14500
Lead		46.4	35	101	72.5	10.2	932	76	125
Magnesium		2760	2390	3330	2960	2620	4970	1500	1930
Manganese		501	384	722	451	85.9	3500	1470	461
Mercury				0.2	0.1	B	0.7		0.3
Nickel	B	9.2	8.7	11.5	14.7	B	583	11.9	12.7
Selenium	J	0.3	0.3	0.3	0.4	J	4.1	0.3	0.4
Silver		0.2					14.1		
Sodium	B	73.3	79.5	132	150	B	470	82	110
Thallium	J	0.3			0.4	J	3.8	0.3	0.4
Vanadium		17.9	17.4	19	26.3	20.8	52.9	41.2	27.2
Zinc		326	291	2200	3040	5690	156000	2410	3280
B	Reported value less than CRDL but greater than instrument detection limit.								
J	Estimated value.								

Soil Sampling from On-Site and Adjacent Property Borings
Only detect values are presented. Samples were collected during October 26-27, 1993.

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Date
Sample

Background Soil	Dup of X101	Soil	Soil	Soil	Soil	Soil
X101	X102	X103	X104	X105	X106	X107

Parameter

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

12400		10000		14900		6880		7430		13000		13000	
8.9	J	9.2	J	13.9	J	10.6	J	11.4	J	9.4	J	10.5	J
5.8		5.7		5		6.6		86.3		6.2		8.7	
2230		2265		112		181		379		224		124	
0.8	B	0.81	B	0.68	B	0.49	B	0.83	B	0.63	B	0.72	B
				3.2		3.2		47.2		0.89	B	3.5	
10600		9880		2010		598	B	1930		11600		5360	
16.2		14.4		15.9		10.3		22.6		15.1		16.1	
4.1	B	6.5	B	12	B	13.7		20.1		11.1		5.6	B
20	J	19.7	J	201	J	30.6	J	911	J	24.7	J	36.4	J
14700		14400		13900		11500		104000		15400		14900	
148		236		260		61		5760		28.5		105	
2370		2090		1970		1040	B	1630		2150		2090	
434		686		915		1180		178		922		600	
0.17		0.18										0.16	
13.5		11.5		20		27.1		55.9		14		15.9	
1890		1600		1120	B	491	J	300	J	1060	J	1160	J
		1.3	J	0.31	J	0.27	J	1.3					
								6.3					
106	B	87.9	B	47.8	B	47.5	B	39.6	B	37.4	B	71.8	B
0.33	B	0.34	J	0.31	J	1.2	J	1.3	J	0.26	J	0.35	J
28.5		27.1		28.2		27.5		22.6		28.5		27.3	
136		138		5580		4770		31700		1490		2480	

B	The reported value is less than the CRDL but greater than the instrument detection limit.
J	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.

Soil Sampling from On-Site and Adjacent Property Borings
Only detect values are presented. Samples were collected during October 26-27, 1993.

Date
Sample

Soil	Soil	Soil	Soil	Soil	Soil	Soil
X108	X109	X110	X111	X112	X113	X114

Parameter

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

11500		10200		15000		13500		9950		16600		9750	
13	J	9.3	J	7.9	J	9	J	10.2	J	7.8	J	8.4	J
13.4		4.6		13.6		8.5		6.2		5.6		11.9	
267		130		150		193		233		116		183	
1	B	0.6	B	0.78	B	0.94	B	0.85	B	0.85	B	1	
11.3		0.71	B	2		1.6		2.8		0.68	B	2.9	
5430		2580		3450		8380		2800		5940		4230	
23.4		13.4		20.7		20.2		14.8		21.7		15.9	
14.8		6.9	B	8.5	B	7.8	B	11.3	B	10.6		5.8	B
104		15.3		22.5		33.8		15.9		22.5		28.3	J
33900		12600		20700		19300		13900		20400		28600	
388		47		87.6		70.8		70.1		75.1		137	
1630		1530		2500		1950		17.6		4870		1130	
1670		660		563		491		2070		568		314	
0.16		0.11	B			0.11	B	0.11	B				
35.1		11		15.9		16.5		22.9		18.6		14.4	
		1650		1980		1920		1970		2400		1040	
0.84	J	0.31	J	0.49	J	0.42	J	0.39	J	0.27	J	0.76	J
178	B	65.7	B	62.8	B	120	B	52.4	B	45.8		293	B
1.4	J	0.28	J			0.25	J	0.28	J	0.27	J	0.71	J
37.7		24.7		38.7		34.2		28.2		33.7		29.7	
2280		360		606		488		489		451		1580	

B	The reported value is less than the CRDL but greater than the instrument detection limit.
J	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.

Soil Sampling from On-Site and Adjacent Property Borings
Only detect values are presented. Samples were collected during October 26-27, 1993.

Date
Sample

Soil	Soil	Soil	Soil	Soil	Soil
X115	X116	X117	X118	X119	X120

Parameter

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

14800		12500		13800		1410		9390		16300	
11.1	J	9.9	J	14.5	J	10.9	J	8.3	J	8	J
10.5		7.1		8.5		5.9		6.7		10.7	
181		227		222		106		196		155	
0.8	B	0.93	B	1.7		0.73	B	0.6	B	0.95	
1.48		2.3		4.8				2.8			
4970		8430		19300		1720		12100		2870	
19.4		18.9		17.3		18.5		13.7		20.4	
7	B	9.8	B	10.6	B	11.1	B	14.9		7.4	B
27.8	J	25.5	J	57.2	J	15.9	J	17.5	J	17.2	J
19700		18900		21100		18200		14100		22900	
76.2		147		186		30.4		51.9		32.7	
2030		2020		2140		2120		1790		2870	
538		851		995		795		1520		889	
0.42		0.24		0.14	B			0.32			
10.9		16.5		275		12.8		14.8		16.9	
1470		1750		1460	J	1210	J	1670		1490	
0.52	J	0.53	J	0.35	J	0.27	J	0.55	J	0.38	J
1.2											
61.5	B	89.9	B	1020	B					27.7	B
0.57	J	0.53	J	0.35	J	0.27	J	0.5	J	0.25	J
34.8		35.1		34.3		34.5	B	26.7		39	
638		998		7420		354		1570		371	

B	The reported value is less than the CRDL but greater than the instrument
J	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.

Storm Water Samples Collected During June 1998

Only detect values are presented.

Date	6/9/98		6/29/98 - 6/30/98		6/30/98		Units
Parameter	First Flush	COMP	First Flush	COMP	S401	S402	
Analytical Lab	Prairie Analytical Systems (PAS)				IEPA		

Aluminum (T)	253	197	5500	2800	39000	6900	ug/l
Ammonia (as N)					0.31	0.42	mg/L
Antimony					17	26	ug/l
Arsenic (T)			6	4	52	32	ug/l
Barium (T)	42	39	202	112	570	170	ug/l
Beryllium (T)					1.9		ug/l
BOD ₅	4.1	3.7	8.1	6.7	5	4	mg/L
Boron (T)					160	100	ug/l
Cadmium (T)	6	5	31	20	43	22	ug/l
Calcium (T)					50	41	mg/L
Chloride (T)					6.4	6.6	mg/L
Chromium (T)			16	6	67	17	ug/l
Cobalt (T)					46	22	ug/l
Chem. Oxygen Demand	88	71	147	76			mg/L
Copper (T)	7	6	346	235	640	320	ug/l
Cyanide T)							mg/L
Fluoride					0.67	0.98	mg/L
Hardness	198	196	88	98.8			mg/L
Iron (T)	600	438	3050	2780	52000	11000	ug/l
Lead (T)	0.017	0.013	0.362	0.287	550	310	ug/l
Magnesium (T)					9.9	4	mg/L
Manganese (T)					1300	430	ug/l
Mercury (T)							ug/l
Nickel (T)	9	8	76	51	160	70	ug/l
Nitrate,Nitrite (N Total)			0.81	1.06	0.73	0.99	mg/L
pH	7.2	7.4	7	7	7.6	8	
Phenols (T)							ug/l
Phosphorus-P (T)			0.17	0.11	0.58	0.17	mg/L
Potassium (T)					31	18	mg/L
Selenium (T)			2	2			ug/l
Silver (T)					6	5	ug/l
Sodium (T)					34	21	mg/L
Solid, Total Sus.	20	20	2400	538	4120	1080	mg/L
Strontium (T)					240	180	ug/l
Sulfate					135	116	mg/L
Total Dissolved Solids					310	300	mg/L
Thallium							ug/l
Vanadium (T)					100	24	ug/l
Zinc (T)	947	885	273000	216000	291000	200000	ug/l

Groundwater Analytical Results for Inorganic Constituents: Dissolved Inorganics

1/3

With the exception of pH, all parameters are measured in mg/L (ppm).
Only detect values are presented. All wells sampled on December 1, 1998.

Well Number	Lab	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Fluoride
G101	PAS			0.018				0.002		0.008	
	IEPA			0.024							0.56
G102	PAS			0.065				0.001		0.004	
	IEPA			0.1							0.45
G103	PAS			0.058				0.003		0.006	
	IEPA			0.059							0.53
G104	PAS	0.008		0.018				0.001		0.013	
	IEPA			0.02							0.37
G105	PAS			0.078				0.001		0.002	
	IEPA			0.084							0.3
G106	PAS	0.004		0.018		0.32			0.011	0.011	
	IEPA			0.02		0.37					0.35
G106 (Duplicate)	PAS	0.005		0.019		0.3			0.01	0.01	
G107	PAS	0.006	0.002	0.034		0.52		0.006	0.004	0.004	
	IEPA										
G108	PAS		0.002	0.038		0.48	0.024	0.017	0.003	0.003	
	IEPA			0.043		0.59	0.03				0.38
G109	PAS			0.012					0.003	0.003	
	IEPA			0.012		0.066			0.012	0.012	0.49
GW Standards	Class I	0.006	0.005	2	0.004	2	0.005	0.1	1	0.65	4
	Class II	0.024	0.2	2	0.5	2	0.05	1	1	0.65	4
	PAS	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.001	0.001	0.05
	IEPA	0.006	0.01	0.01	0.01	0.05	0.005	0.005	0.005	0.005	0.05

Uncertain detection limit.
 Exceeds Class I GW Standard
 Exceeds Class II GW Standards
 PAS = Prairie Analytical Services IEPA = IEPA Analytical Laboratories

Groundwater Analytical Results for Inorganic Constituents: Dissolved Inorganics

2/3

With the exception of pH, all parameters are measured in mg/L (ppm).
Only detect values are presented. All wells sampled on December 1, 1998.

Well Number	Lab	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
G101	PAS	0.042		0.04			0.005			0.006
	IEPA	0.12		0.059						
G102	PAS	0.147		0.368		0.002				0.014
	IEPA			0.43						
G103	PAS	0.008		0.144		0.003				0.038
	IEPA			0.82						
G104	PAS					0.003				0.279
	IEPA	0.28		0.007						0.43
G105	PAS			0.186		0.001				0.018
	IEPA			0.2						
G106	PAS			0.035		0.002				0.019
	IEPA			0.058						
G106 (Duplicate)	PAS			0.04		0.002				0.022
G107	PAS	4.94		2.36		0.004				1.74
	IEPA									
G108	PAS	4.08		5.24		0.013				5.7
	IEPA	2.6		6.1		0.014				5.3
G109	PAS	0.071		0.009		0.001				0.011
	IEPA	0.16		0.012						
GW Standards	Class I	5	0.0075	0.15	0.002	0.1	0.05	0.05	0.002	5
	Class II	5	0.1	10	0.01	2	0.05	NA	0.02	10
Lab practical quantitation limits	PAS	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	IEPA	0.1	0.005	0.005	0.0001	0.005	0.01	0.005	0.01	0.1

	Uncertain detection limit.
	Exceeds Class I GW Standard
	Exceeds Class II GW Standards
PAS = Prairie Analytical Services IEPA = IEPA Analytical Laboratories	

Groundwater Analytical Results for Inorganic Constituents: Dissolved Inorganics

3/3

With the exception of pH, all parameters are measured in mg/L (ppm).
Only detect values are presented. All wells sampled on December 1, 1998.

Well Number	Lab	Chloride	Cyanide	Nitrate-N	Nitrate, Nitrite	pH	Sulfate	TDS
G101	PAS							
	IEPA	5.3			0.16		59	
G102	PAS							
	IEPA	67.9					293	
G103	PAS							
	IEPA	70.5			0.61		438	
G104	PAS							
	IEPA	43.8			0.43		730	
G105	PAS							
	IEPA	20.3					176	
G106	PAS							
	IEPA	32.7			1.02		296	
G106 (Duplicate)	PAS							
G107	PAS							
	IEPA							
G108	PAS							
	IEPA	15.5					197	
G109	PAS							
	IEPA				0.24		49.4	
GW Standards	Class I	200	0.2	10	NA	NA	400	1200
	Class II	200	0.6	100	NA	NA	400	1200
Lab practical quantitation limits	PAS	0.05	0.01	0.1	NA	NA	0.1	1
	IEPA	1	0.00001	NA	0.01	NA	0.1	0.1

	Uncertain detection limit.
	Exceeds Class I GW Standard
	Exceeds Class II GW Standards
PAS = Prairie Analytical Services IEPA = IEPA Analytical Laboratories	

Groundwater Analytical Results for Inorganic Constituents: Total Inorganics

1/3

With the exception of pH, all parameters are measured in mg/L (ppm).
Only detect values are presented. All wells sampled on December 1, 1998.

Well Number	Lab	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Fluoride
G101	PAS		0.002	0.056				0.014	0.003	0.013	0.58
	IEPA			0.057		0.064		0.012		0.009	0.52
G102	PAS		0.001	0.109				0.005	0.002	0.009	0.42
	IEPA			0.1				0.005			0.41
G103	PAS		0.004	0.124				0.013	0.004	0.013	0.49
	IEPA			0.11		0.051		0.012	0.005	0.01	0.48
G104	PAS	0.001	0.006	0.11				0.022	0.006	0.021	0.37
	IEPA			0.08		0.1		0.012	0.006	0.016	0.34
G105	PAS			0.09				0.001		0.003	0.33
	IEPA			0.088							0.3
G106	PAS		0.001	0.037		0.44		0.003	0.001	0.008	0.32
	IEPA			0.036		0.38				0.007	0.34
G106 (Duplicate)	PAS	0.001	0.004	0.092		0.42		0.014	0.004	0.013	0.33
G107	PAS	0.002	0.003	0.071		0.64	0.044	0.002	0.006	0.019	0.52
	IEPA										
G108	PAS		0.003	0.054		0.66	0.029	0.002	0.016	0.017	0.4
	IEPA			0.053		0.56	0.032		0.02	0.006	0.38
G109	PAS	0.002	0.003	0.065		0.14		0.012	0.002	0.058	0.54
	IEPA			0.059		0.067		0.01		0.058	0.45
GW Standards	Class I	0.006	0.005	2	0.004	2	0.005	0.1	1	0.65	4
	Class II	0.024	0.2	2	0.5	2	0.05	1	1	0.65	4
Lab practical quantitation limits	PAS	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.001	0.001	0.05
	IEPA	0.006	0.01	0.01	0.01	0.05	0.005	0.005	0.005	0.005	0.05

Uncertain detection limit.
Exceeds Class I GW Standard
Exceeds Class II GW Standards
 PAS = Prairie Analytical Services IEPA = IEPA Analytical Laboratories

Groundwater Analytical Results for Inorganic Constituents: Total Inorganics

2/3

With the exception of pH, all parameters are measured in mg/L (ppm).
Only detect values are presented. All wells sampled on December 1, 1998.

Well Number	Lab	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
G101	PAS	1.98	0.004	0.087		0.008	0.005			0.03
	IEPA	8.9	0.005	0.19		0.01				
G102	PAS	1.82	0.002	0.424		0.005	0.001			0.019
	IEPA	4.2		0.43						0.12
G103	PAS	3.19	0.007	0.206		0.013	0.002			0.08
	IEPA	12	0.007	0.41		0.014				
G104	PAS	6.62	0.016	0.177		0.019	0.002			0.6
	IEPA	13	0.018	0.38		0.015				0.99
G105	PAS	0.22	0.001	0.204		0.002				0.023
	IEPA	1		0.23						
G106	PAS	0.88	0.003	0.061		0.004	0.001			0.038
	IEPA	3.6		0.12						
G106 (Duplicate)	PAS	3.8	0.011	0.215		0.012	0.002			0.104
G107	PAS	5.96	0.182	2.56		0.005				1.86
	IEPA									
G108	PAS	3.68	0.011	6.1		0.014	0.007			5.34
	IEPA	7.7	0.01	6		0.016				5.4
G109	PAS	3.14	0.012	0.124		0.008	0.006			0.058
	IEPA	10	0.007	0.025		0.01				
GW Standards	Class I	5	0.0075	0.15	0.002	0.1	0.05	0.05	0.002	5
	Class II	5	0.1	10	0.01	2	0.05	NA	0.02	10
Lab practical quantitation limits	PAS	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	IEPA	0.1	0.005	0.005	0.0001	0.005	0.01	0.005	0.01	0.1

	Uncertain detection limit.
	Exceeds Class I GW Standard
	Exceeds Class II GW Standards
PAS = Prairie Analytical Services IEPA = IEPA Analytical Laboratories	

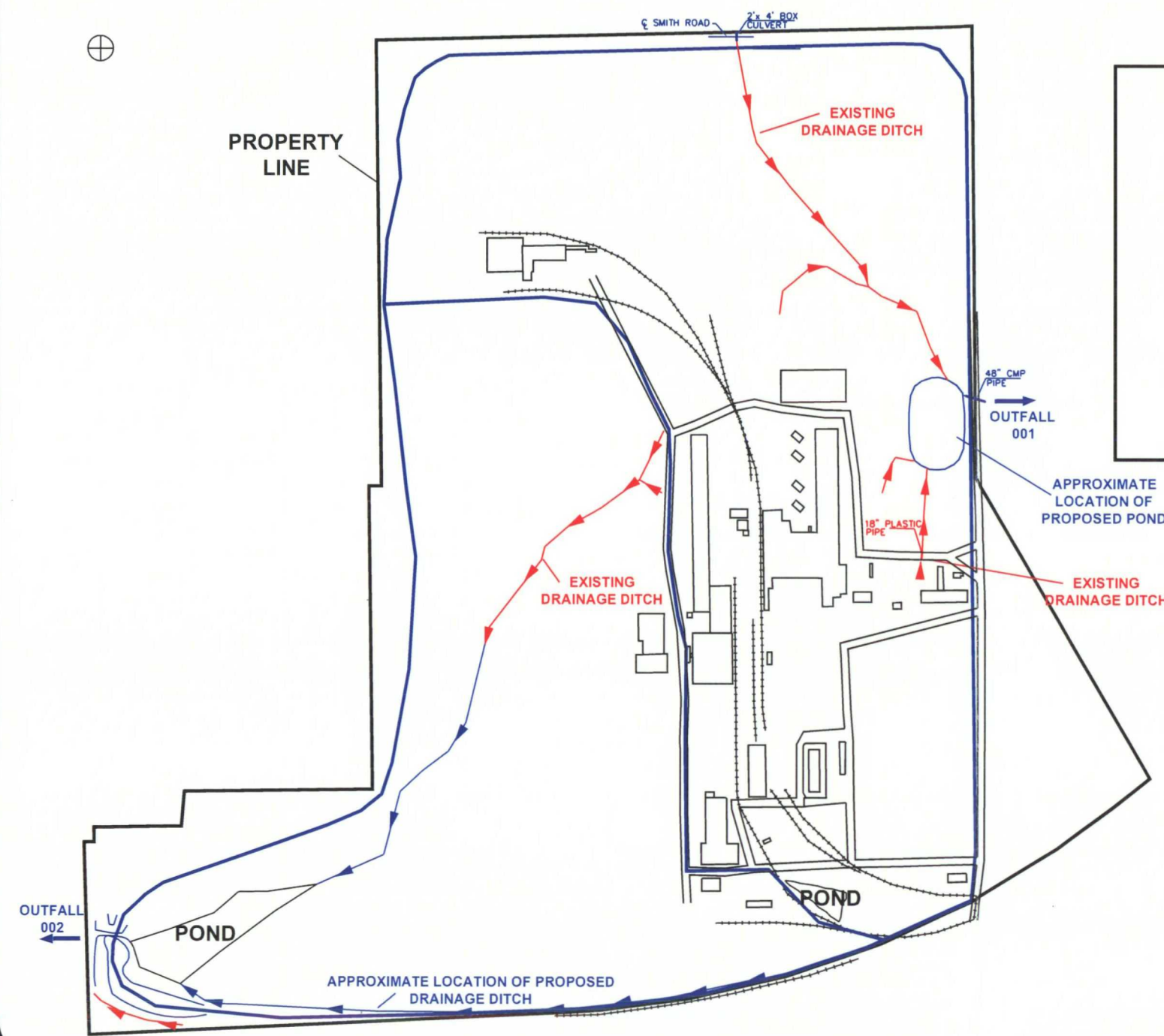
Groundwater Analytical Results for Inorganic Constituents: Total Inorganics

3/3

With the exception of pH, all parameters are measured in mg/L (ppm).
Only detect values are presented. All wells sampled on December 1, 1998.

Well Number	Lab	Chloride	Cyanide	Nitrate-N	Nitrate, Nitrite	pH	Sulfate	TDS
G101	PAS	2.21				7.5	71.3	425
	IEPA	2.1			0.12	7.2	60.8	375
G102	PAS	47.9				7.4	271	700
	IEPA	66.9				7.4	240	650
G103	PAS	51.1		0.7		7.3	319	1020
	IEPA	72.6			0.57	7.5	578	610
G104	PAS	31		0.4		7.5	470	995
	IEPA	45.9			0.39	7.2	673	701
G105	PAS	14.6				7.5	171	535
	IEPA	19.8				7.2	171	484
G106	PAS	23.4		0.3		7.5	398	895
	IEPA	30.3				7.9	621	628
G106 (Duplicate)	PAS	23		0.3		7.4	400	905
G107	PAS	11.5				7.2	410	790
	IEPA							
G108	PAS	11.2		0.1		7	231	675
	IEPA	16.7				7.4	204	501
G109	PAS	1.12		0.3		7.7	48	185
	IEPA				0.25	6.9	40.9	203
GW Standards	Class I	200	0.2	10	NA	NA	400	1200
	Class II	200	0.6	100	NA	NA	400	1200
Lab practical quantitation limits	PAS	0.05	0.01	0.1	NA	NA	0.1	1
	IEPA	1	0.00001	NA	0.01	NA	0.1	0.1

	Uncertain detection limit.
	Exceeds Class I GW Standard
	Exceeds Class II GW Standards
PAS = Prairie Analytical Services IEPA = IEPA Analytical Laboratories	



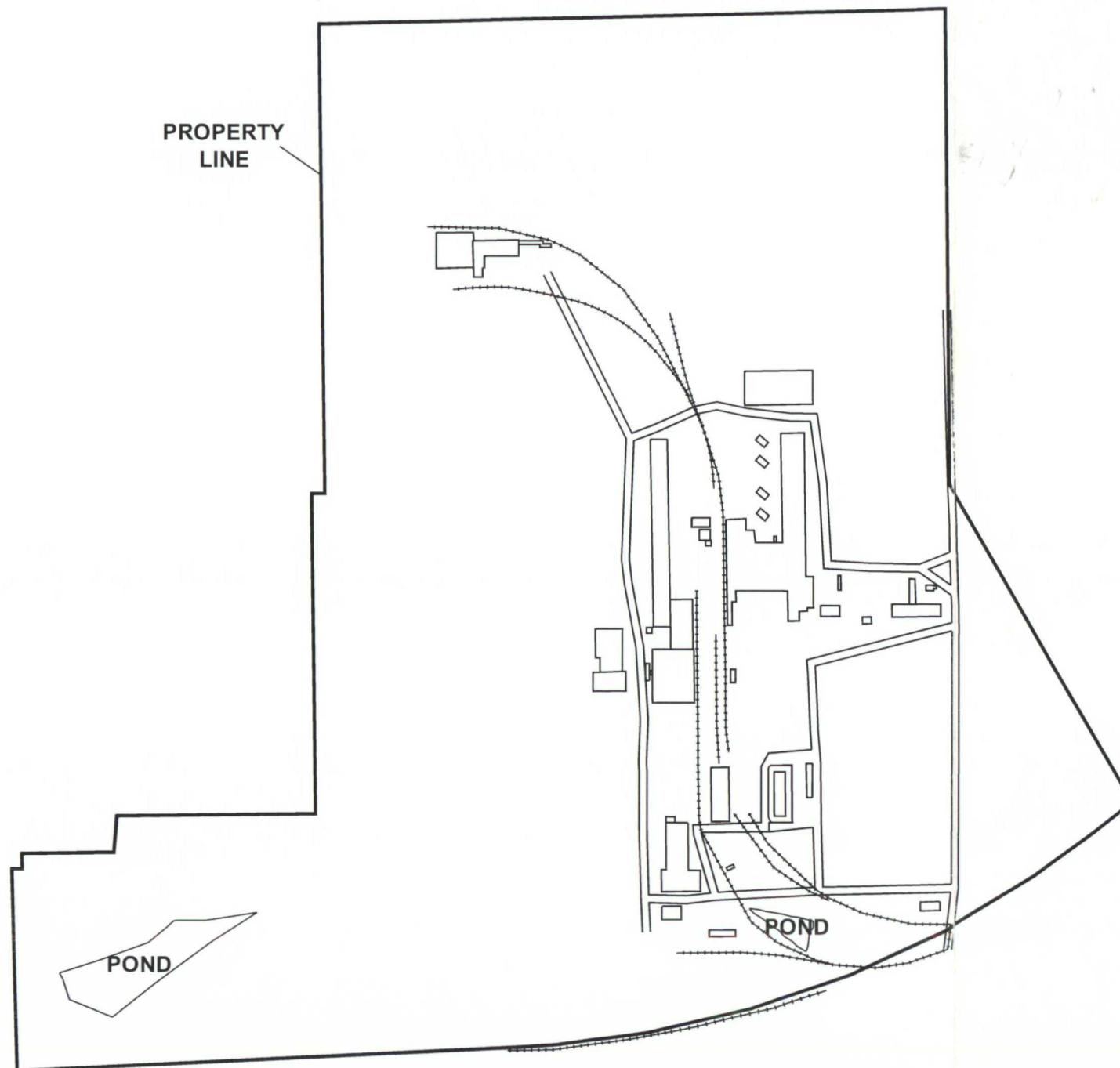
<p>Basin Boundary</p> <p>OUTFALL</p> <p>EXISTING DRAINAGE DITCH</p> <p>PROPOSED DRAINAGE DITCH</p>	<h3>Proposed Site Drainage Plan</h3> <p>Key Components:</p> <ul style="list-style-type: none"> - Cover historical staging area with nominal 2-foot soil cover, vegetate and fence - Regrading: Storm water runoff from the manufacturing area and borrow area directed to Outfall 001; Storm water from remainder of property directed to Outfall 002. - Additional paving in manufacturing area - Demolition of buildings west of railroad siding
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EAGLE ZINC
HILLSBORO, ILLINOIS
December 1999

ENVIRON

Figure 1



EAGLE ZINC

HILLSBORO, ILLINOIS
December 1999

ENVIRON

Figure 2



<p><u>Contours</u></p>	<p>1998 - Site Survey (by Hurst - Rosche Engineers Inc.)</p>



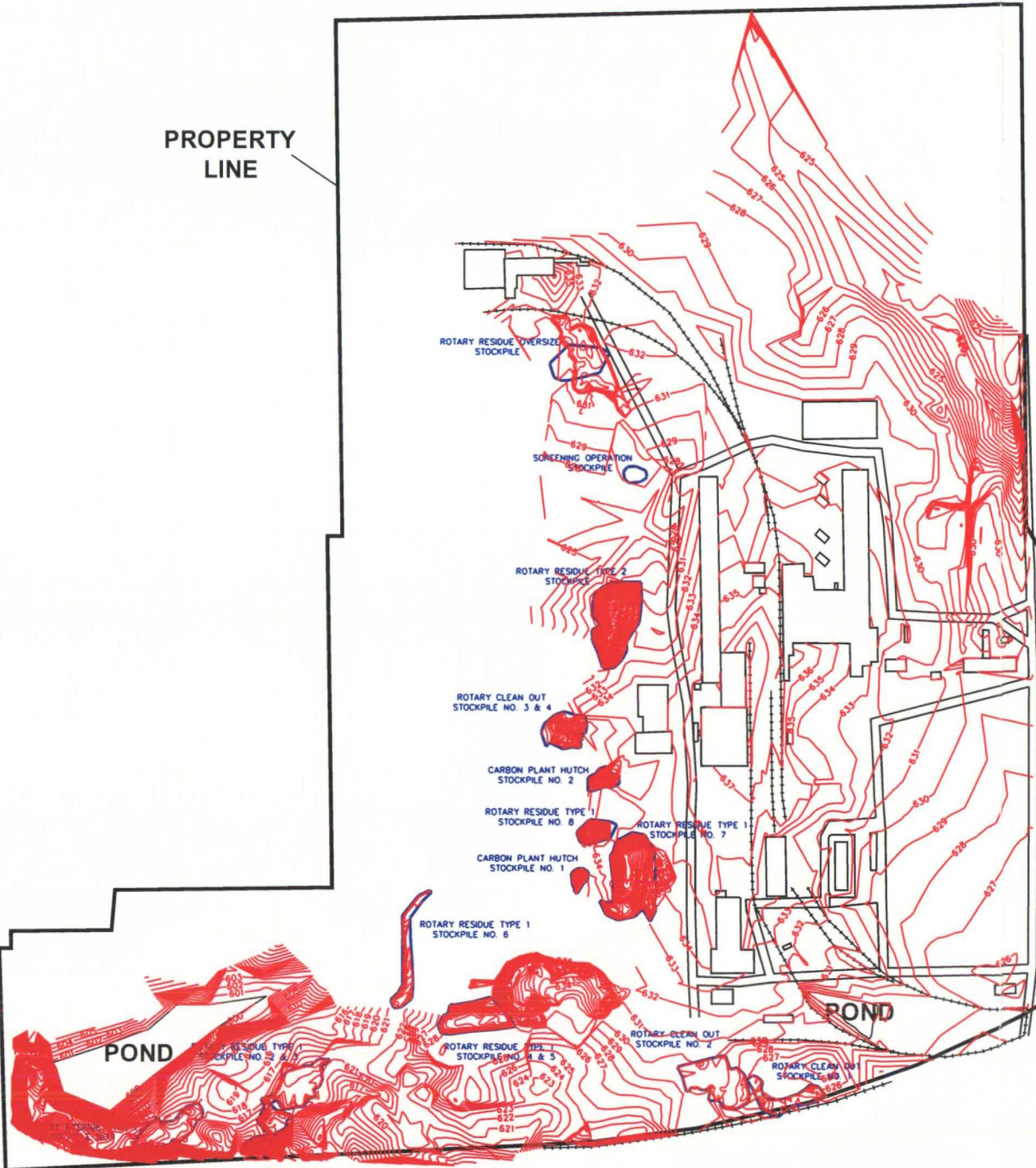
EAGLE ZINC

HILLSBORO, ILLINOIS

December 1999

ENVIRON

Figure 3



PROPERTY
LINE

Contours

Stockpile
Footprint

1998 - Site Survey
(by Hurst - Rosche Engineers Inc.)

December 1999 Stockpile
Configuration (Approximate)



EAGLE ZINC
HILLSBORO, ILLINOIS
December 1999

ENVIRON

Figure 4

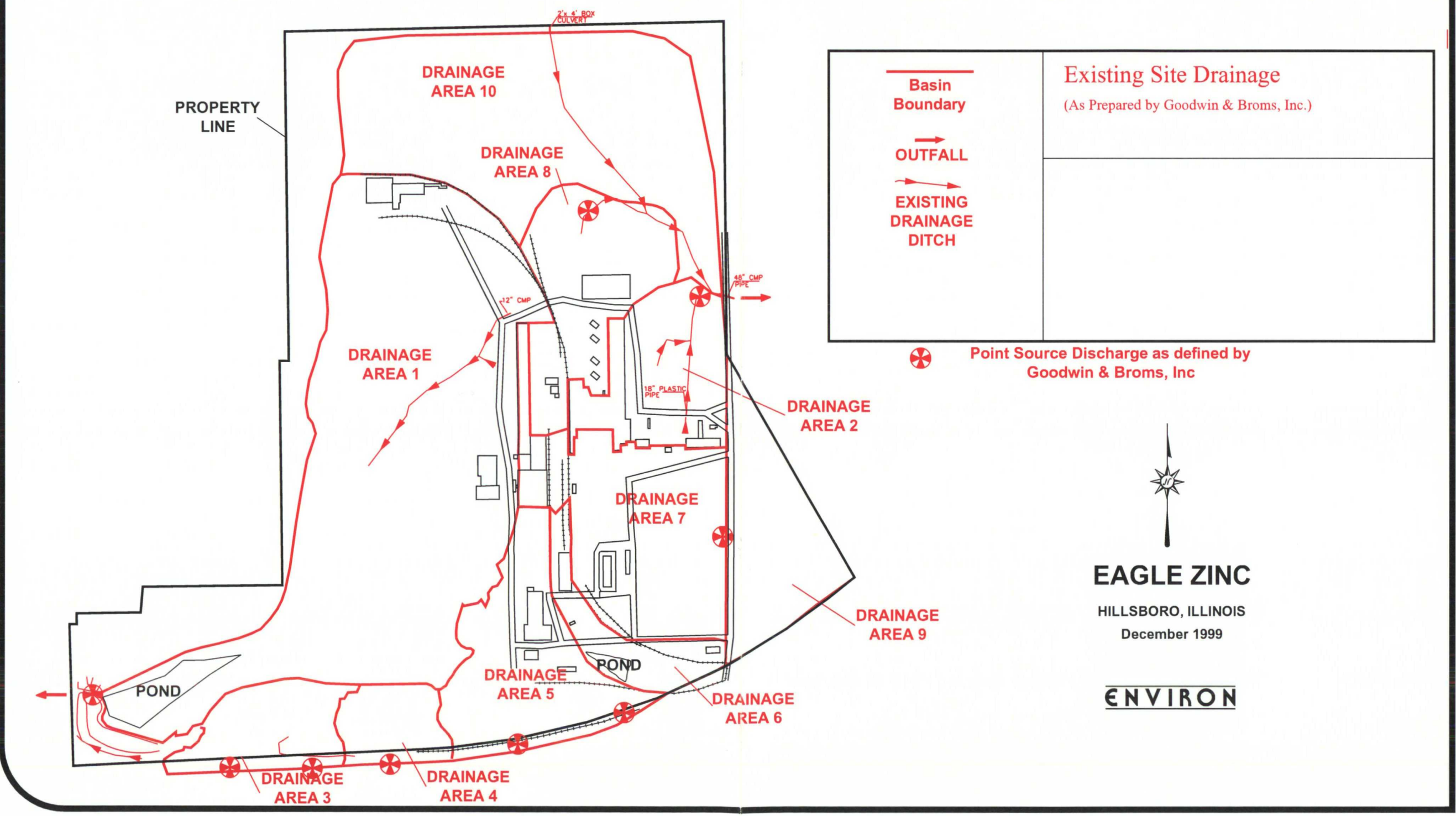


Figure 5

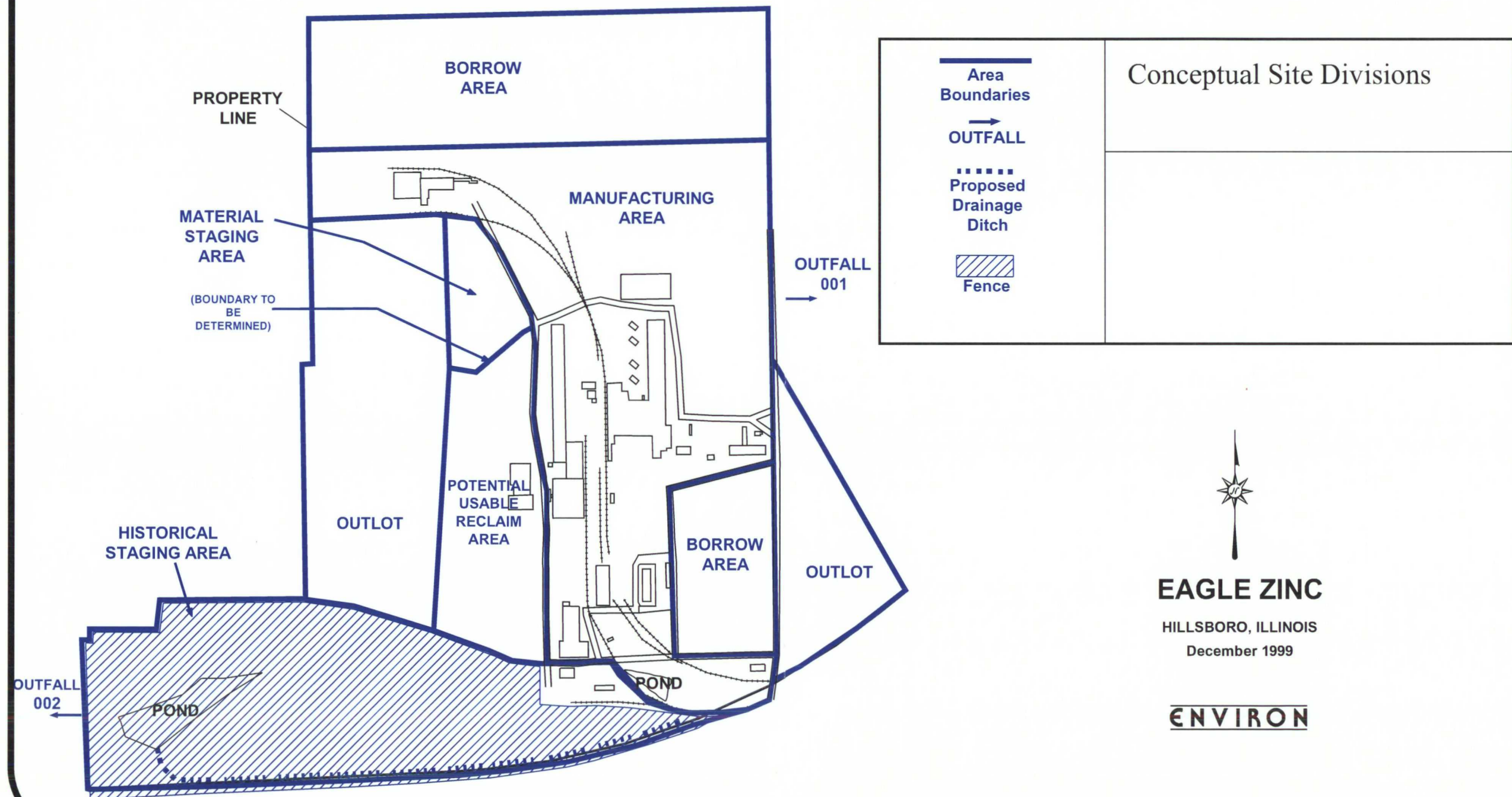


Figure 6

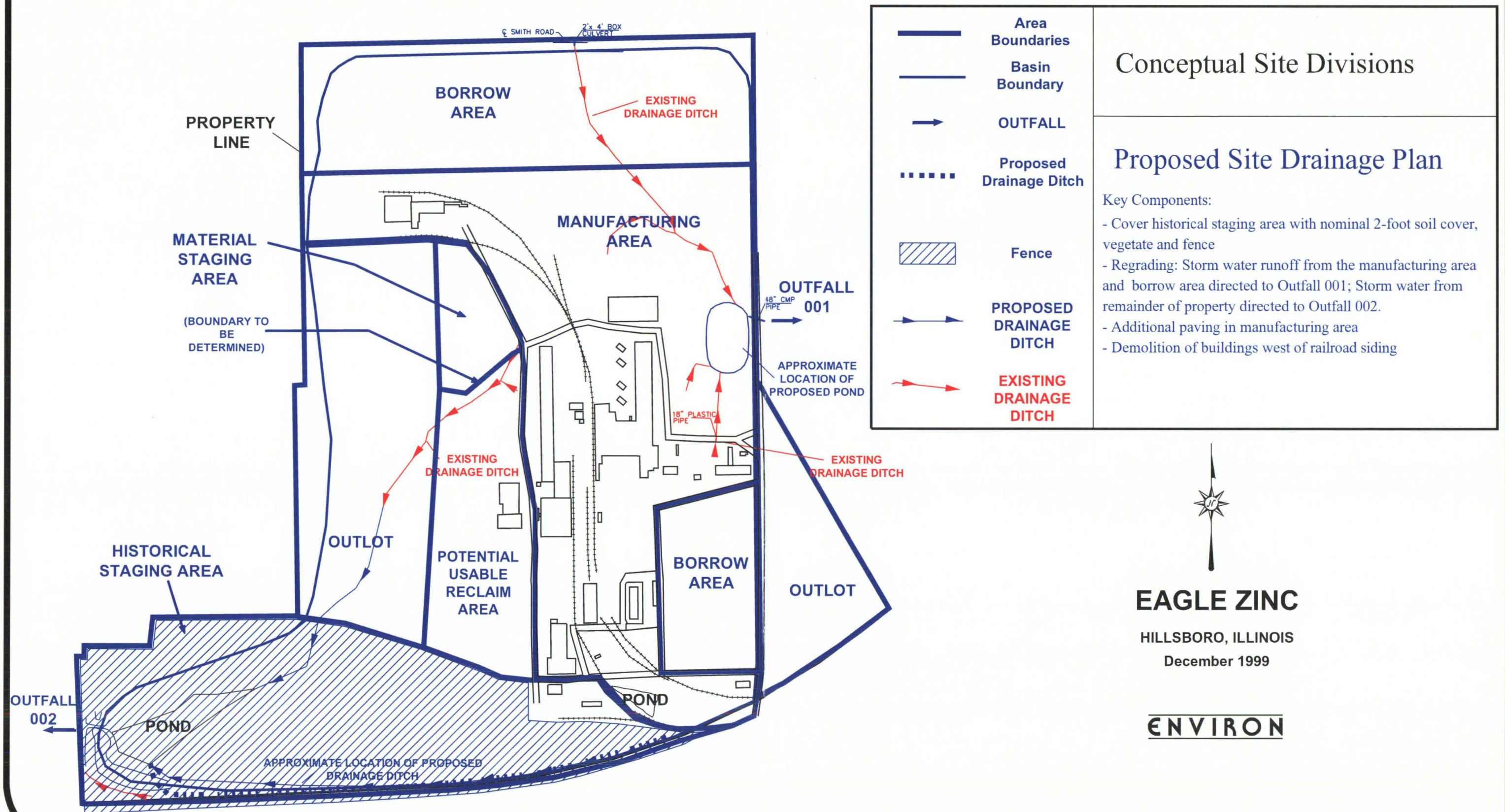


Figure 7

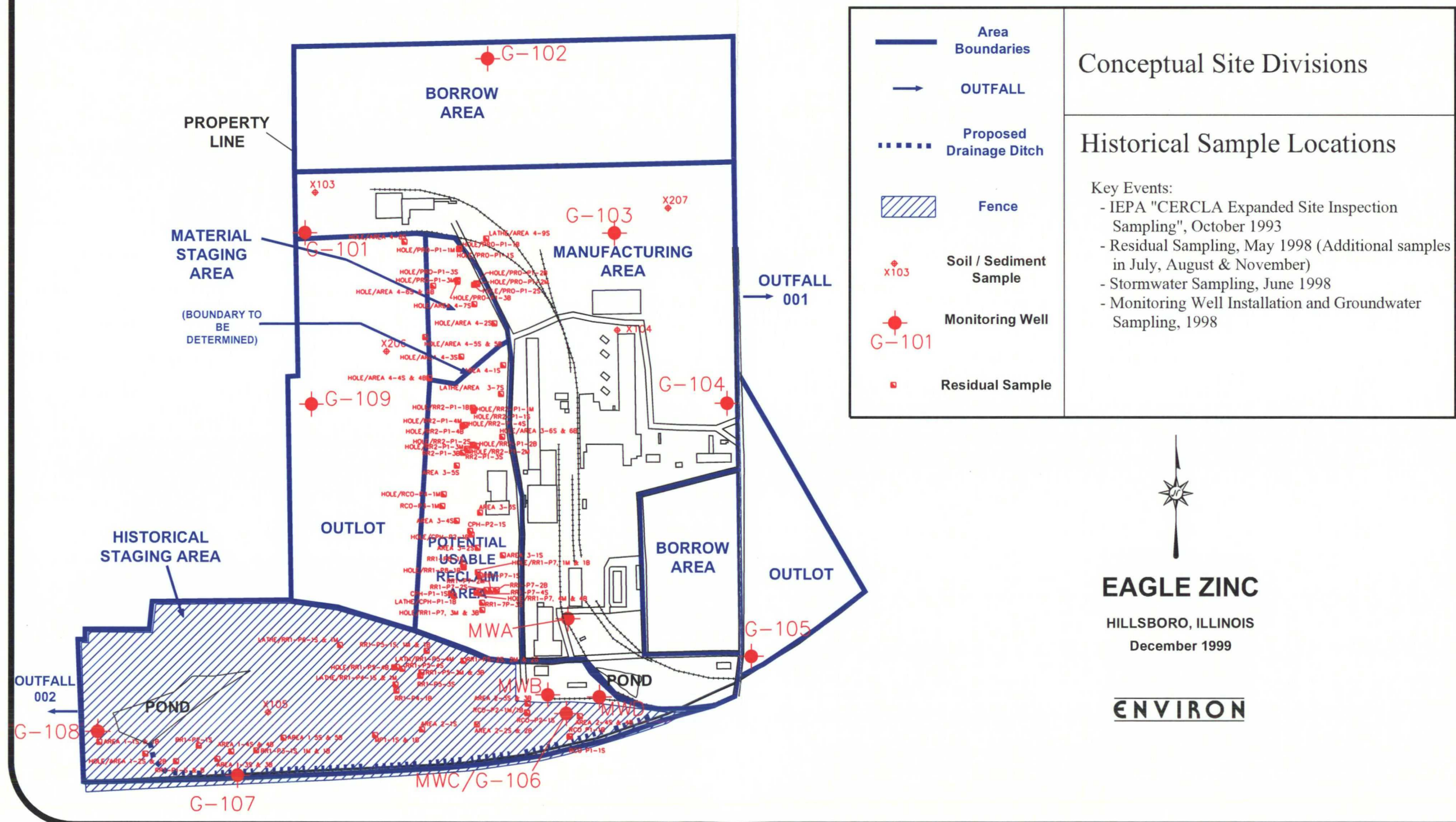


Figure 8

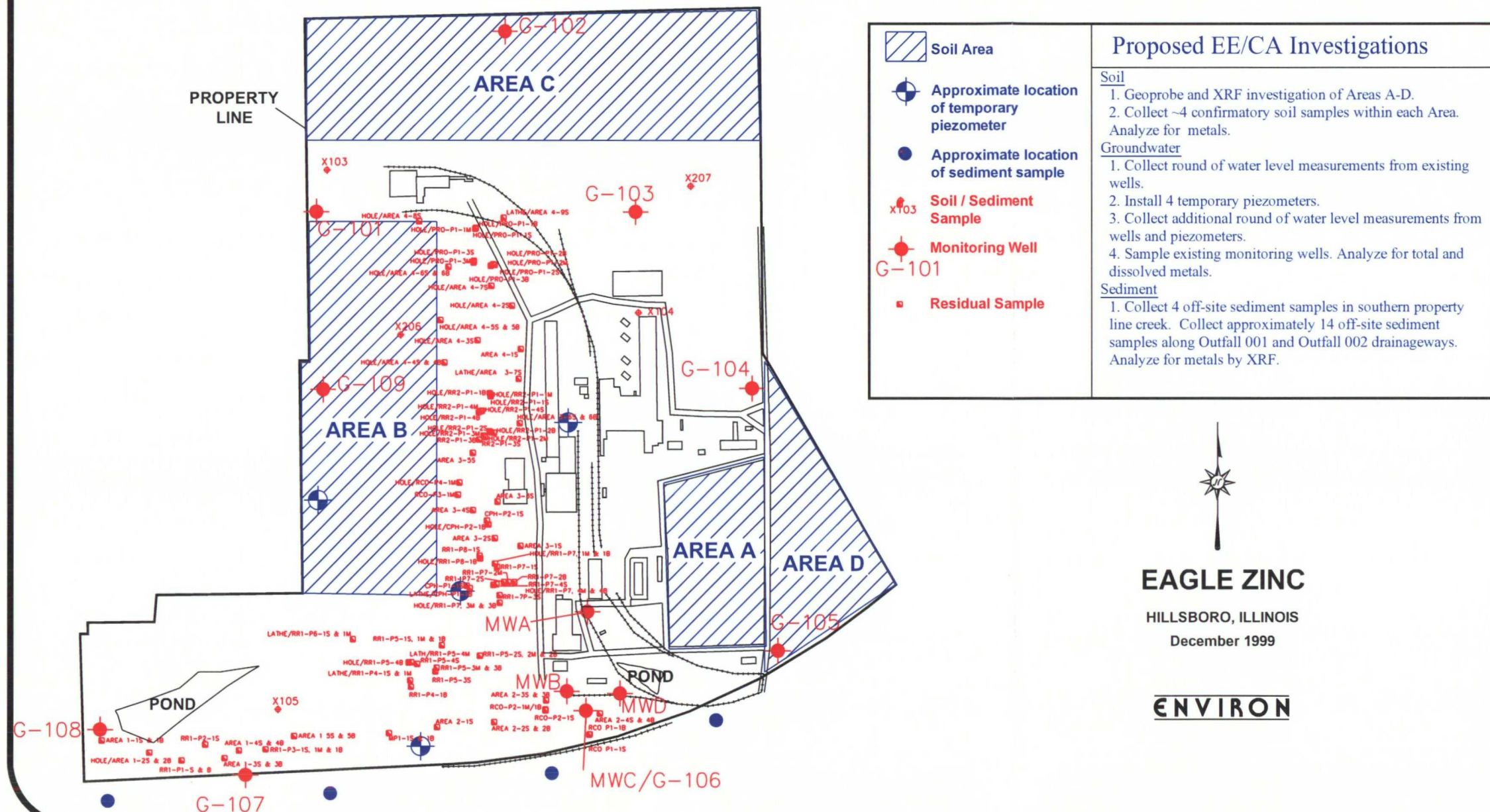


Figure 9

